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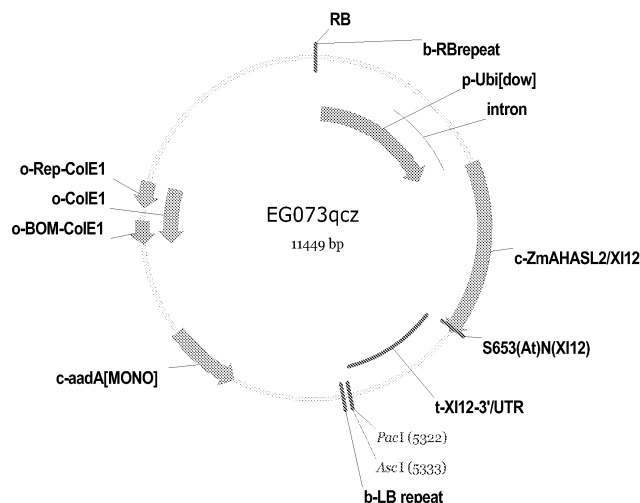
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(54) **New genes related to a process for the production of fine chemicals**

(57) The present invention relates to a process for the production of the fine chemical in a microorganism, a plant cell, a plant, a plant tissue or in one or more parts thereof. The invention furthermore relates to nucleic acid

molecules, polypeptides, nucleic acid constructs, vectors, antisense molecules, antibodies, host cells, plant tissue, propagation material, harvested material, plants, microorganisms as well as agricultural compositions and to their use.

Figur 1





EUROPEAN SEARCH REPORT

Application Number
EP 07 10 7662

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	<p>DATABASE Geneseq [Online] 17 October 2000 (2000-10-17), "Arabidopsis thaliana protein fragment SEQ ID NO: 6299." XP002486242 retrieved from EBI accession no. GSP:AAG08669 Database accession no. AAG08669 see abstract; the protein has 93.7% identity with SEQ ID NO: 26 & EP 1 033 405 A (CERES INC [US]) 6 September 2000 (2000-09-06)</p> <p>-----</p>	6-16	<p>INV. C12P13/12 C12N15/82 C07K14/415 C07K16/16</p>
X	<p>DATABASE Geneseq [Online] 15 July 2004 (2004-07-15), "Thale cress protein upregulated in E2Fa/Dpa expressing plants SeqID 1226." XP002486243 retrieved from EBI accession no. GSP:ADN73331 Database accession no. ADN73331 see abstract; the protein has 93.7% identity with SEQ ID NO: 26 & WO 2004/035798 A (CROPDESIGN NV [BE]; INZE DIRK [BE]; DE VEYLDER LIEVEN [BE]; VLIEGHE KO) 29 April 2004 (2004-04-29)</p> <p>-----</p>	6-16	<p>TECHNICAL FIELDS SEARCHED (IPC)</p> <p>C12N C12P C07K</p>
X	<p>DATABASE Geneseq [Online] 29 January 2004 (2004-01-29), "Plant growth associated protein seq id 54." XP002486244 retrieved from EBI accession no. GSP:ADE25079 Database accession no. ADE25079 see abstract; the protein has 92.9% identity with SEQ ID NO: 26 & US 2003/188343 A1 (BOWEN BENJAMIN A [US] ET AL) 2 October 2003 (2003-10-02)</p> <p>-----</p> <p>-/--</p>	6-16	
<p>The present search report has been drawn up for all claims</p>			
Place of search		Date of completion of the search	Examiner
Munich		30 June 2008	Grosskopf, Ruediger
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons</p> <p>& : member of the same patent family, corresponding document</p>			

EPO FORM 1503 03.82 (P04C01)



EUROPEAN SEARCH REPORT

Application Number
EP 07 10 7662

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 2004/031072 A1 (LA ROSA THOMAS J [US] ET AL) 12 February 2004 (2004-02-12) The protein with SEQ ID NO: 244484 has 92.3% identity with SEQ ID NO: 26; see esp. para [0049]	6-16	
A	----- AZEVEDO R A ET AL: "The aspartic acid metabolic pathway, an exciting and essential pathway in plants" AMINO ACIDS ; THE FORUM FOR AMINO ACID AND PROTEIN RESEARCH, SPRINGER-VERLAG, VI, vol. 30, no. 2, 1 March 2006 (2006-03-01), pages 143-162, XP019379381 ISSN: 1438-2199 -----		
			TECHNICAL FIELDS SEARCHED (IPC)
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 30 June 2008	Examiner Grosskopf, Ruediger
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p>			

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Application Number

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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing claims for which payment was due.

☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):

☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

☒ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

1-25 partially

☐ The present supplementary European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims (Rule 164 (1) EPC).



LACK OF UNITY OF INVENTION
SHEET B

Application Number

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The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

Invention 1: Claims 1 to 25 (all part)

Claims insofar as they relate to a protein having SEQ ID NO: 26, nucleic acid encoding it and the use of said protein in a process for the production of methionine

Inventions 2 to 25 : Claims 1 to 25 (all part)

Claims insofar as they relate to a protein having SEQ ID NO: 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72, or 74, respectively, nucleic acid encoding it and the use of said protein in a process for the production of methionine

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 07 10 7662

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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30-06-2008

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 1033405	A	06-09-2000	NONE	
WO 2004035798	A	29-04-2004	AU 2003298095 A1	04-05-2004
			US 2006021088 A1	26-01-2006
US 2003188343	A1	02-10-2003	NONE	
US 2004031072	A1	12-02-2004	US 2004034888 A1	19-02-2004
			US 2006236419 A1	19-10-2006